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XXVII.—*Notes on some new or little-known Marine Animals.*
By PHILIP HENRY GOSSE, A.L.S.

[With a Plate.]

(Fascis III.)

Class ARACHNIDA.

Order ACARINA.

Fam. TROMBIDIADÆ.

Genus PACHYGNATHUS (Dugès).

P. notops (mihi). Pl. VIII. figs. 1-4.

Body flat, sinuated, pointed behind, black; one eye on the back; legs equal, the first and second remote from the third and fourth, hairy; the last joint the longest.

Description.—Length $\frac{1}{37}$ th of an inch. Body lozenge-shaped or somewhat 7-sided, with sinuations at the origin of the limbs; it is hyaline and colourless at the margins, but the interior is almost filled with a flesh of deep blue-black hue, perfectly opaque, and of defined, subregularly-sinuuous outline. In the centre of the back, just behind the head, is a bright ruby-like round eye, placed in front of the opacity, and between the first legs (fig. 1).

The head, formed by a great lip, projects in front and carries two small palpi, thick at the base, conical, and pointed. Below, the lip is divided longitudinally (fig. 2), each half being slightly incurved and pointed, the two divisions approaching in a pincer-like manner. Under slight pressure, there were projected between the palpi two slender styles (fig. 3), which doubtless

represent the mandibles; and hence I am not sure whether the species should not range under the genus *Raphignathus* of Dugès.

The legs are about equal and alike; the fourth and sixth joints are large and swollen; the seventh is the largest and tapers abruptly at the middle, like a claret bottle; the tip forms a little round disk, whence diverge a pair of curved hooks, with plain edges, but two-toothed at the tip, or rather having a prominent tooth over the tip (fig. 4). All the joints are well furnished with straight bristles, the sixth having one much longer and stouter than the rest. The limbs are set in two series, the first and second originating close together, but remote from the third and fourth, which are also contiguous to each other.

Several specimens of this little Mite, I have found in one of my older vessels of sea-water. They climb up the glass sides, among the flocculent vegetable matter that is deposited on the glass. I afterwards found it among bushy sea-weed at Ilfracombe, in August.

The specific name is from $\nu\acute{o}\tau\omicron\varsigma$, the back, and $\acute{\alpha}\psi$, the eye.

Fam. ORIBATADÆ.

Genus HALACARUS (mihi).

H. ctenopus (mihi)*.

I found another specimen of this marine Mite in one of my aquaria, among weed from Ilfracombe. It was $\frac{1}{35}$ th of an inch in length, the body opaque or only subpellucid white, tinged internally with pale red; the median white line very conspicuous. Strongly conspicuous also were two lateral black eyes, which exactly agreed with those of *H. rhodostigma*, and a third orbicular eye also black, close behind the rostrum. Neither of these eyes was visible in the specimen I before examined. The shape of the body agreed more with that of *H. rhodostigma*, and, as in that species, the anus here was papillary and terminal. This specimen appeared to be a male.

A single *Vorticella* of a rather shallow bell was attached to the body, and the limbs carried several *Acinetæ*, perhaps of the same species. They had a cylindrical body set on a very slender stem; the body cut into very distinct annuli, and bearing on its two anterior angles pencils of short capitate setæ (Pl. VIII. fig. 6). Total length $\frac{1}{360}$ th of an inch.

* See Ann. and Mag. Nat. Hist. for July 1855.

Class CRUSTACEA.

Order PODOPTHALMA.

Fam. PALÆMONIDÆ.

Genus HIPPOLYTE (Leach).

H. spinus (Sowerby).

A single specimen of this interesting Æsop Prawn, obtained by me while dredging on the oyster-bank off Ilfracombe, in August last, enables me to mention its colours in a living state. It was about $\frac{3}{4}$ ths of an inch long.

The carapace, with the rostrum, and all the organs of the head are opaque white; the abdomen is dull purplish-red, except the summit of the third segment, which is white; the swimming-plates of the tail and half of the penultimate segment are white; the legs ringed with white and red. The surface of the abdomen is beset with a few scattered erect hairs.

Order EDRIOPHTHALMA.

Fam. COROPHIADÆ.

Genus UNCIOLA (Say).

U. irrorata (Say).

Of this rare American Crustacean, which has not hitherto been recognized in Europe, I obtained a specimen at Weymouth between tide-marks in April last. Its colour was wholly white. It lived in one of my small vases for a week or two, manifesting no noticeable peculiarity of manners, except that it delighted to hide among the bushy sea-weeds.

Fam. ASELLIDÆ.

Genus TANAIS (M.-Edw.).

T. Savignyi (Kroyer).

This minute species, now first recognized as British, I obtained also at Weymouth, in coralline from tide-marks. Both this and the preceding I have figured in my 'Manual of Marine Zoology,' figs. 246 & 256.

Fam. PRANIZADÆ.

Genus PRANIZA (Leach).

P. cæruleata (Montagu).

I took a specimen parasitic on a young *Cottus bubalis* in a rock-pool at Ilfracombe, in August. The mouth of the Crustacean was so firmly imbedded in the cheek of the fish, that it

could not be detached without considerable effort; at length I picked it off with a needle, and observed that the muzzle of the *Praniza* was furnished with minute divergent filaments. The colours during life were frecklings of umber-brown on a pellucid ground, except the whole of the enormous penult segment of the thorax, which was filled with a core (so to speak) of rich grass-green, appearing bluish in some aspects, set in a pellucid-white exterior. The eyes, which were black, were remarkable for the fewness and great size of their facets; which, notwithstanding the minuteness of the insect, were distinctly visible with a low-powered pocket-lens.

The animal was sluggish, though apparently unhurt, when detached from its victim.

Otto obtained *P. branchialis* (Nov. Act. xiv. 348) from the branchiæ of *Phycis furcatus*; and this is the only instance that I know of in which this genus has been proved to be parasitic. Mr. Westwood, however, suspected it (Ann. Sci. Nat. xxvii. 326), from his having found *P. Montaguï* among *Caligidæ* from Shetland.

Fam. SPHÆROMADÆ.

Genus NÆSEA (Leach).

N. bidentata (Leach).

When alive its ground colour is dark chocolate-brown, produced by a pattern of lines on a pellucid body, studded with symmetrical spots and dashes of pale "king's yellow;" the contrast of hues producing a handsome result. This species I have obtained both at Weymouth and at Ilfracombe.

The following Crustacea are perhaps worthy of being mentioned as occurring to me at Weymouth. *Corophium longicorne* is numerous in the shallow salt-water ditches at the upper end of the Backwater. *Anthura gracilis* occurred in sea-weed; and *Nebalia bipes* I found in a hollow beneath a stone off the jetty at a low spring tide.

Class ANNELIDA.

Order CHÆTOPODA.

Fam. NEREIDÆ.

Genus CRITHIDA (mihi).

Antennæ five, very large, viz. a frontal pair which are bulbous at base, and two-branched, and three occipital ones, which are very thick, tapering to a blunt point, and long: a pair of tentacular cirri on the head; two large eyes: feet ovate, very move-

able, each with a filiform cirrus above, a pencil of short bristles, and a second pencil of long straight convergent bristles.

C. thalassina (mihi). Pl. VIII. fig. 5.

Length $\frac{1}{6}$ th of an inch; colour of some specimens a lively pellucid sea-green, of others pale orange or fawn-brown: all the members colourless.

The head is distinct, with two large conspicuous eyes, of a very dark red hue. The front of the head, which is slightly two-lobed, bears a pair of porrected antennæ, the basal portions of which are large and bulb-like, giving rise to two diverging filaments, of which the interior is the shorter, and is often much convoluted. Between these antennæ and the eyes are two minute horn-like processes, which may perhaps be considered a supplementary pair of antennæ, in which case the total number is seven. Immediately behind the eyes are three large antennæ (two lateral and one medial), which taper to a blunt point, and are more than half as long as the body; they are directed backwards, and are generally more or less curled and convoluted. A tentacular cirrus springs from the base of each lateral antenna.

Segments twenty-five, exclusive of the head. Each is furnished with a pair of feet, of which the first three are smaller than the rest, and stand out transversely. All the rest point backwards (but are very free and mobile), and are of a long-oval shape, diminishing regularly to the tail. Both these and the anterior series carry a superior cirrus, which is filiform, wrinkled, but not moniliform, and a little longer than the foot itself. Both series have also a pencil of short bristles, and the posterior series have in addition a second pencil, which is straight, convergent, twice as long as the foot, and directed obliquely backwards. The ovate feet in regular distichous arrangement, with these long pencils, have a very striking resemblance to an ear of barley with its grains and awns; a resemblance which I have commemorated in the generic appellation, from *κριθή*, barley, and *εἶδος*, likeness. The ultimate and penultimate segments are minute, and are destitute of cirri and bristles.

Some half-dozen of these little worms were dipped from the surface of the Bristol Channel near Ilfracombe, on a calm afternoon in August last. They swam with excessive agility by a rapid horizontal undulation of the body, in which the long pencils reflected prismatic rays. The moment this undulatory movement ceased, they usually bent themselves into a crescent or circle.

The genus reminds one of *Ioida* of the late Dr. Johnston, but is widely remote from it; the bifid antennæ are very peculiar.

The minuteness of the animal forbade my determining the nature of the proboscis, or the form of the bristles.

Fam. AURICOMADÆ ?

Genus CROSSOSTOMA (mihi).

No distinct head ; no eyes ; upper margin of mouth set with numerous cirri ; segments thirty, of which the anterior ones are furnished with bristles, feet, and superior cirri ; inferior cirri from the fourth segment to the tail ear-like, cleft ; eight tentacles on the second and third segments ; tail furnished with a pair of minute styles.

C. Midas (mihi). Pl. VIII. figs. 7-12.

Body $1\frac{1}{2}$ inch long, $\frac{1}{6}$ th of an inch wide in front, tapering to tail, subcylindrical, flattened beneath, plump and glossy (fig. 7). Mouth opening somewhat beneath, with a retractile lip, the upper margin of which is fringed with numerous radiating cirri, which are curled, white, slender, ciliated, and apparently tactile, as they are frequently applied to the ground in an exploring manner (figs. 7, 8). Immediately above this fringe are two oval or reniform disks, which appear to occupy the place of eyes, but are not coloured.

The body is composed of thirty segments, which are very distinct beneath, but, from the plumpness of the body above, the annulation is almost obsolete there. Each segment, as far as the eighteenth, is furnished, on each side, with a small cylindrical foot (fig. 10), which bears, above, a minute superior cirrus, and is perforated at the tip to project a pencil of bristles, which are long, slender, straight blades, drawn off to a fine point, slightly curved (fig. 12). The pencil of the first segment is much graduated, and is of the colour and appearance of burnished gold ; those of the second and third segments are minute, and these segments themselves are as it were fused together. They give origin above to eight tentacles, which form a group of four on each side, comparatively short, but graduated in length, thick, cylindrico-conical, obtuse, with a dark core ; these organs are suberect, projecting and diverging (figs. 8, 9).

At the fourth segment commences a series of organs, which continues to the tail. They appear to be the inferior cirri of the feet, but are separated by a distinct interval from the bristle-bearing tubercles (fig. 10). In form they resemble the human ear, at least as far as the middle of the body, whence they gradually become more and more wart-like. They have a longitudinal fissure near the tip, the orifice of which is protected by a

series of minute, close-set, transverse bristles, which impart to these organs under the microscope some resemblance to the lips of a Cowry shell. I could detect no cilia on these ear-like organs, but the tentacles and the fringing cirri of the mouth are richly ciliated.

The ultimate segment is furnished with a pair of slender diverging fleshy filaments (fig. 11).

The colours of this worm are beautiful. The back is purplish-red, passing into lilac, with a fine pearly gloss, the whole thickly studded with white specks. The head, the mouth-fringe, and the whole under-parts are white. The tentacles are translucent yellow-olive, with a black core at the base, gradually lost, the surface marked with transverse lines and dashes of opaque white. The first pencil of bristles (as has been said above) is golden.

The animal inhabits a tube about twice its own length and thickness; but its diameter appears greater than it is, from its manner of construction. It is made of small fragments of shell, minute bits of slate, &c., affixed, not by their surfaces, but edge-wise, so that the whole presents a peculiarly rugged bristling appearance, yet not devoid of neatness. Slender filaments of sea-weed, coralline, &c. project here and there;—and while a large flat stone ballasts the posterior extremity, the anterior is protected by a small limpet shell, which has been seized entire, and most ingeniously fastened so as to form a dome over the animal's head when partly protruded (fig. 8). Somewhat similar porticoes I have seen in the tubes of Caddis worms, which indeed this structure closely resembles; and the same object is attained by a large species of *Sabellaria* common on the Devonshire coast, which constructs a flat portico of the common substance of the tube. In all cases it is a beautiful instance of animal providence, as well as architecture.

I did not, however, find that, with all this attention to comfort, the worm was particular as to which end of his dwelling he made his sally-port; for after having used the porticoed extremity awhile, which of course was the front door, he suddenly appeared (having turned himself meanwhile in some mysterious manner) at the back-door, which thenceforth he persisted in using all the while I had him. He was not at all shy; he would retreat, indeed, if touched, but was presently out again. His habit was to protrude a fourth, or even half of his body from the tube, and remain curling and twining the mouth-fringe of cirri, every instant twitching one or other of the tentacles, and as it were striking the water with them, as a crab does with its inner antennæ.

The specimen was taken at Ilfracombe, under a stone at low water, in August; and lived some days in captivity.

The generic name is from *κροσσός*, a fringe, and *στόμα*, the mouth; the specific alludes to the fable of the long-eared Phrygian king.

Fam. SABELLADÆ.

Genus PROTULA (Grübe).

P. Dysteri (Huxley).

I obtained this beautiful and interesting species at Ilfracombe, both from deep water, and from the sides of perpendicular rocks at extreme low tide. I had prepared drawings and a memoir of it for publication, supposing it to be new; but I find that my friend Mr. Huxley has described it far better than I could, in the 'Edinb. New Phil. Journ.' for January of the present year. I had the pleasure of repeating most of his observations, and in particular that of the fissiparous increase of the species.

Class TURBELLARIA.

Order PLANARIEA.

Tribe RHABDOCÆLA.

Genus CONVOLUTA (Oersted).

C. paradoxa (Oersted).

This little worm I met with in April of the present year at Weymouth, crawling out of tufted weeds from low water. But at Ilfracombe in July it occurred in far greater abundance, crowding the branches of the common Coralline and Ceramium. The manner in which the lateral edges of the body are rolled over, so as to form an imperfect cylinder, with an oblique orifice anteriorly, renders it a highly curious form. In their movements the little creatures were very active; crawling swiftly along the branches, and especially about the terminal filaments, frequently two or three on the same tip, with a smooth gliding progress, much like that of an *Eolis* or *Doris*, but more nimble. They frequently raise the fore parts, and occasionally almost the whole body, adhering only by the posterior portion, and then explore the surrounding water, as a caterpillar throws its head about at the tip of a twig. Then they often glide off into the free water, and swim with exactly the same sort of motion as they used on the weed.

Having immersed several of them in fresh water, with a view to killing them before placing them in spirit of wine for preservation, I found that in a very few moments they were dissolving, by the commingling of their exterior surface with the water, so as to present only undefined and incoherent masses of mucus.

